



Heating Elements & Power Leads/Terminals T.I.G. Welding Guide

WELDING REPAIRS

Before you begin welding, follow the guidelines below.

1. Identify element alloy & select proper weld wire.
2. Clean/grind and remove surface oxide and/or degrease with hot water if necessary.
3. Straighten or bend section of element material as necessary to suit before welding.
4. Tungsten Inert Gas – T.I.G. welding.
5. See table 1 for typical alloy grades. Element alloy and T.I.G. wire should be the same alloy.
6. See American Welding Society (AWS) web site for quality standards and technical data.

TABLE 1 (T.I.G. WIRE GRADES)

Examples shown are typical. Many variations are possible. Consult engineering drawings for alloy identification.

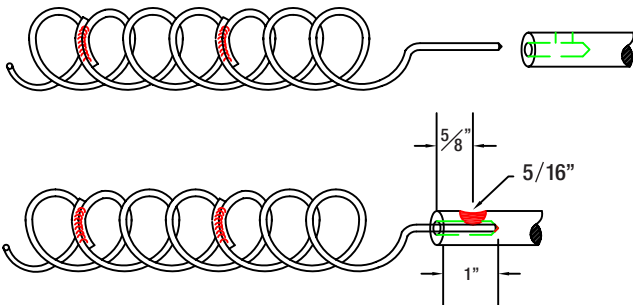
Nikel-Chrome Alloy

1. NICHROME "A" 80Ni – 20CR (non magnetic)
2. NICHROME "70" 70Ni – 30CR (non magnetic)
3. NICHROME "C" 60Ni – 16CR (non magnetic)
4. NICHROME "D" 35Ni -19CR (Non-Magnetic)

Iron-Chrome-Aluminum Alloys

5. Kanthal A-1 Fe-Cr-Al (Highly-Magnetic)
6. Kanthal A Fe-Cr-Al (Highly-Magnetic))
7. Kanthal D Fe-Cr-Al (Highly-Magnetic)

Coil Elements & Terminal/Jumper Plug



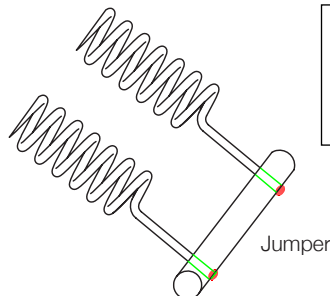
Rod Elements

Note: Minimum Length of overlap 3 to 4 times the diameter of the rod.

Note: Weld both Top and Bottom edges.



Jumper Bars



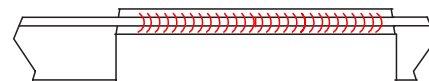
Jumper Bars to be same grade alloy as the element material. Drill holes slightly larger than wire for slip fit into jumper bar.

Ribbon Elements

Triple Layer Overlap

Note: Minimum Length of overlap 2-1/2 to 3 times the width of the ribbon or strip.

Note: Weld both Top and Bottom edges.



Always leave 1/4" un-welded at ends
DO NOT UNDERCUT



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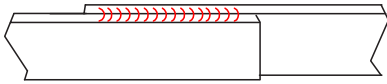
T.I.G. Welding Guide

Ribbon Elements

Double Layer Overlap

Minimum Length of overlap 2-1/2 to 3 times the width of the ribbon or strip.

Note: Weld both Top and Bottom edges.



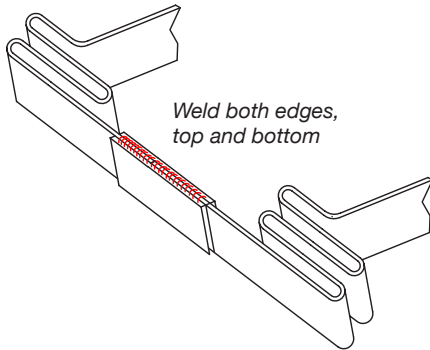
Always leave 1/4" un-welded at ends

DO NOT UNDERCUT

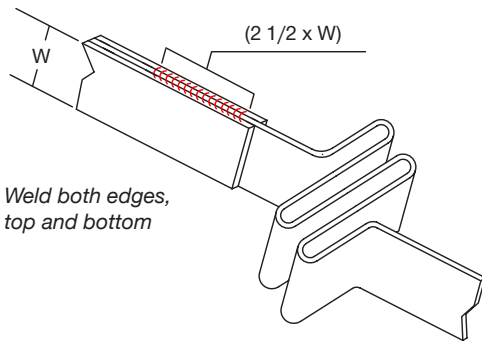
Triple Layer Crossover

Note: Minimum Length of overlap 2-1/2 to 3 times the width of the ribbon or strip.

Note: Weld both Top and Bottom edges.



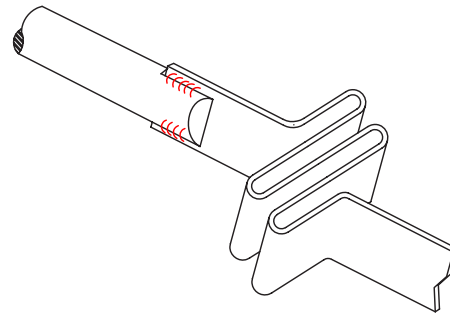
Triple Layer Terminals



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Slotted Terminals



Weld Photos

